SOME EFFECTS OF STRUCTURED WORKPLACE LEARNING ON STUDENTS’ ATTITUDES TO SCHOOL LEARNING AND ITS IMPACT ON PERSONNEL IN HOST WORKPLACES.

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Since the 1970s most Australian secondary schools have offered work experience placements for their students. This usually takes the form of students being placed in an approved workplace for some time to experience first-hand the day-to-day realities of that workplace. Usually the students are expected to participate in the normal functions of the workplace, and no wage or training allowance is paid. Typically the timing of the placement is in the final year of compulsory schooling and lasts five consecutive days, although other temporal models are permissible. For example, there may be shorter-term serial placements over a number of weeks, or episodic placements of two or three days each. For the purposes of this paper, this kind of serial and/or episodic workplace learning towards the end of compulsory schooling is called conventional work experience.

Conventional work experience is usually adhoc and unstructured. That is to say, it is unplanned and the host employer is not required to provide formal instruction in any workplace learning. Consequently, the quality of students’ learning outcomes from conventional work experience may vary greatly, with chance playing a significant role in students’ learning opportunities in conventional work experience. For example, a student may have wide-ranging opportunities to learn because of the timeliness of his/her presence in the workplace in relation to interesting and challenging workplace activities being undertaken at that time. On the other hand students’ opportunities to learn may be compromised because the valuable nature of the work precludes the employer risking its spoiling by unskilled hands, or its abstract nature proves unsuitable for capturing the interest of secondary school students. In other instances host employers’ resources may not stretch to spending much time planning for students’ presence. Thus, conventional work experience may be of limited value in promoting desirable learning outcomes for students in compulsory schooling. Clearly, a new approach to conventional work experience is required if it is to play a more useful role in students’ development as learners.

Workplaces too, need to reassess their roles in hosting work experience placements. Personnel in host workplaces may benefit from a more purposeful approach to workplace learning, particularly if those workplaces have adopted or are developing the learning organisation style of workplace practice. Sefton et al cite a number of definitions of the learning organization. One such definition of the learning organisation that is relevant in this context is that provided by Pedler et al (1989). They say that a learning organization is ‘an organization which facilitates the learning of all its members and continuously transforms itself in order to meet its strategic goals’ (Sefton et al 1995:47). One way to promote and sustain the development of a learning organization may be to borrow from recent developments in structured workplace learning and its implementation in vocational education and training in schools and workplaces for students of post-compulsory school age.
Structured workplace learning for post-compulsory school students in Australia had its genesis in the workplace learning reforms of the 1980s and 1990s. The Kirby Report in 1984 first proposed the use of competency-based training as the basis of Australia’s contemporary structured workplace learning system (Hermann, 1985). By 1990, a framework for the implementation of a competency-based training system in workplace learning had been adopted (COSTAC, 1990). In 1992 Carmichael recommended the acceptance of the Australian Vocational Certificate Training System (AVCTS) and the piloting of training projects to improve participation in entry-level training for 15 to 21 year old people (Carmichael Report, 1992). The AVCTS had as its cornerstone the provision of structured workplace learning for post-compulsory school students through competency-based learning. The AVCTS then underwent several incarnations through the introduction of the Modern Australian Apprenticeship and Trainee System (MAATS) in 1996, finally emerging in 1998 as the New Apprenticeships training system.

Thus, through these formal training programs, students of post-compulsory school age have been participating in structured workplace learning for some years. Conventional work experience for students of compulsory school age has been largely ignored and remains unchanged in its unplanned and informal delivery and assessment described above. It stands in stark contrast to the training programs available for students of post-compulsory school age.

In an attempt to re-establish equity between the post-compulsory and compulsory school sectors, a pilot program in structured workplace learning in compulsory schooling was commenced at a Hobart (Tasmania) suburban high school in 1998. This program was fully implemented in 1999 and continued into 2000. The 1999 program was the subject of a study to measure the effects of structured workplace learning on the 1999 Grade 10 students’ attitudes to learning in a school context. The 2000 program was the subject of a study to determine the effects of structured workplace learning programs on personnel in the host workplaces.

The findings of this research indicate that structured workplace learning can improve students’ levels of motivation to learn and promotes organisational learning in host workplaces. Quantitative data show that school students placed in structured workplace learning situations whilst still in compulsory education tended to report an increase in their valuing of and commitment to learning in a school context after completing the work placement. Further quantitative and anecdotal evidence is presented which indicates that personnel in workplaces hosting structured workplace learning have benefited from the practical application of teaching and learning processes in their workplace roles as individuals, their membership of teams and departments, and in their perceptions of benefit to the enterprise.

The Research.

A case study approach was used to examine the effects of structured workplace learning on students in compulsory schooling and its effects on personnel in host workplaces.

The school involved in the case study is a government high school serving children of compulsory school age (12 to 16 years) living in two broad acre public housing communities on the urban fringe of Hobart. Seventy-four percent of the study cohort lives in the two public housing communities. These two housing communities are two of the three most socio-economically disadvantaged communities in suburban Hobart and the school receives additional funding from state and federal sources to compensate. At the 1996 census, adult unemployment in one community was measured at 26 per cent, and was 45.3 per cent in the other. In the same census the local government area encompassing the two communities
returned an Index of Relative Socio-Economic Disadvantage of 825, the lowest in Tasmania. The Index for Tasmania was 969 and the Australia-wide Index was 1000 (Australian Bureau of Statistics, 1996).

The host employer was a national chain of supermarkets. This chain has five supermarkets accessible by public transport and situated within reasonable travelling distance of the school. It is a Quality Endorsed Training Organisation (QETO) and conducts entry-level and advanced training for its employees to standards accepted by the Australian National Training Authority (ANTA). All credentials awarded for successful training fit within the Australian Qualifications Framework (AQF) and are subject to mutual recognition through the Australian Recognition Framework (ARF).

Theoretical Constructs Supporting Research into the Effects of Structured Workplace Learning on Students in Compulsory Schooling

Following Campbell’s (1972) and Keeves’ (1974) examples, Krathwohl’s Affective Domain Taxonomy (1964) was adopted as the theoretical construct for this part of the study. The following hypothesis guided the research:

Students’ attitudes to learning in compulsory schooling will be more positive in relation to the first three levels of Krathwohl’s Affective Domain Taxonomy following their exposure to structured workplace learning.

Krathwohl’s Affective Domain Taxonomy is a five level continuum of affective behaviours (Krathwohl et al, 1964). This study, like Campbell’s (1972) and Keeves’ (1974), is limited to the first three levels of the taxonomy. These first three levels encompass the development of students’ affective behaviours in receiving and attending to instruction (Level 1), responding to instruction, (Level 2), and valuing and commitment to learning, Level 3. These levels correspond to the first three levels of the Cognitive Domain Taxonomy: Knowledge, Comprehension, and Application(Krathwohl, et al, 1964: 49-50).

Typical learning behaviour profiles for students developing across these three levels tends to be cumulative with greater involvement and commitment to learning progressively emerging in successively higher levels of the taxonomy. Thus, learning involvement for students behaving at Level 1 is centred on passively receiving and attending to the learning activity and ‘…the learning is guided towards specific objectives’ (Krathwohl, et al 1964:99). At Level 2, students’ passive receiving and attending behaviours are present and they are added to by students’ responding to the learning activity. Low level commitment through a willingness to ‘…do something with or about the phenomenon besides merely perceiving it’ (Krathwohl, 1964:118) begins to emerge. Despite the greater involvement heralded by this responsiveness and its implied evidence of an increased willingness for and enjoyment in the learning, students at Level 2 remain passive in terms of initiating learning. Taking initiatives in learning emerges in Level 3. Students behaving at Level 3 are receiving, attending, and responding, and are valuing the learning in more active ways, sometimes taking initiatives to direct and maintain the learning. This valuing component adds a dimension of commitment to the learning.

Theoretical Constructs Supporting Research into the Effects of Structured Workplace Learning on Personnel in Host Workplaces

The theoretical construct for analysing data on the effects of structured workplace learning on personnel in the host workplaces was that of workplace context layers (O’Connor, 1994). This approach allowed employees who had participated in the hosting of structured
workplace learning to provide input in terms of its impact in each of four workplace context layers, namely:

- Individual workers;
- Work teams or groups;
- Work section or department; and
- Enterprise.

Such involvement recognises that ‘...those who know most about the detailed and intimate workings and requirements of the particular context layer are those who occupy, operate and shape its functions’ (O’Connor, 1994: 275)

Research Design Supporting Research into the Effects of Structured Workplace Learning on Students in Compulsory Schooling

The research design for this part of the study followed Campbell and Stanley’s quasiexperimental nonequivalent control group design (1963:47-50). This design involved an experimental treatment being administered to 30 of the 105 students in the 1999 Grade 10 cohort with the remaining 75 providing a pool of potential controls. The research activity was presented to subjects as an extension in the existing vocational education program and participation in the experimental group was voluntary. Consequently, the groups were nonequivalent in terms of both number and bias. The experimental group was self-selected and no control for bias was applied. No student in either group was told of the experimental nature of the activity.

Students’ unawareness of the experiment was achieved by placing the experiment under the auspices of the school’s Assisted School Self-Review (ASSR) process (Tasmania, Department of Education 1998). Structured workplace learning and its place in students’ vocational education had been identified as a target for this school’s community partnership agreement. Specific amongst the outcomes to be measured was that of the effects of structured workplace learning on students’ attitudes to learning. With the agreement of the school’s principal, these data were made available for this research under the auspices of the ASSR. Thus, administration of the pre- and post-treatment attitude surveys were received by students as part of an extensive testing and data gathering procedure generated by the ASSR process throughout 1999.

The experimental treatment comprised the placement of 30 students in the host employer’s supermarkets for 10 days of structured workplace learning in five of the ten competencies from the Certificate 1 in Retail (Introduction to Sales and Service). From March 1999 to November 1999 three separate groups of ten students were placed for structured workplace learning in five neighbouring supermarkets for one day per week over a ten-week period. Each ten-student group was subdivided into five groups of two so that no more than two students were present in any host supermarket at the same time. Survey instruments comprising identical pre- and post-treatment attitude questionnaires were administered to all available students in the cohort.

Survey Instruments Supporting Research into the Effects of Structured Workplace Learning on Students in Compulsory Schooling.

The survey instruments were based on Keeves’ attitude scales (Keeves, 1974). Keeves organised his attitude scales into five areas of student growth and development to measure attitudes to learning for subjects in upper primary and junior secondary schools. These five areas are:
• Scale I: Attitudes towards School and School Learning;
• Scale II: Attitudes of Interest and Enjoyment in Learning Mathematics;
• Scale III: Interest and Enjoyment in Learning Science;
• Scale IV: Motivation to Achieve in School Learning; and
• Scale V: Respect and Confidence in Self (Self-regard) (Keeves, 1974: 32-36).

Embedded in each of these five attitude scales are items that test attitudes to learning as developed in the *Taxonomy of Educational Objectives The Classification of Educational Goals Handbook II: The Affective Domain* (Krathwohl, et al, 1964). Keeves’ tested classifications range from sub-level 1.1 (Awareness) to sub-level 3.3 (Commitment).

It was decided to concentrate research effort on those aspects of subjects' development that focus on attitudes to learning that will enhance current and future learning. Thus, while self-regard is acknowledged as an important factor in an individual's overall character development, Scale V was not used in this research. The usefulness of Scale V was further reduced by its capability to test only for the lowest sub-level of attainment in the Affective Domain Taxonomy, sub-level 1.1 (Awareness). Scale V was, however, the only scale to test for sub-level 1.1 and its elimination meant that this classification was not tested in this research.

Keeves' remaining four attitude scales were applied to elicit responses from subjects on their attitudes towards learning in the following levels of the Affective Domain Taxonomy:

- o Level 1: Receiving and Attending;
- o Level 2: Responding; and
- o Level 3: Valuing.

Subjects self-reported their pretest and posttest attitudes to learning in these three levels of the Affective Domain Taxonomy by twice recording their responses to items presented in two identical 69 item questionnaires based on Keeves’ first four attitude scales. There were some minor changes to some of Keeves’ questionnaire items to reflect Tasmanian conditions and to break up some items containing two or more ideas. These are set out below:

- In Keeves’ Scale I Attitudes toward School and School Learning item 41 was adjusted from ‘...staying at school after I am fifteen’ (Keeves, 1974:32), to ‘...staying at school after I am 16’ to acknowledge the minimum school leaving age of 16 years in Tasmania; and
- In Keeves’ Scale II Attitudes of Interest and Enjoyment in Learning Mathematics (Keeves, 1974:33), items 29 and 35 were recast into two items for each, and the tail of item 39 was deleted such that each of these five items ‘...contained only one complete thought’ (Anderson, 1997:888).

In reporting their preference for Level 1 affective behaviours subjects responded to questions such as "I don’t like missing a day at school" and "I find it hard to keep my mind on my school work". Examples of Level 2 questions included "Sometimes I forget to do my homework" and "I like to try to solve mathematical puzzles and problems", and some Level 3 questions were: "I like doing science experiments in my spare time" and "Science is not an important subject and less time should be given to it at school" (Keeves, 1974:32-35).

Reliability.

All four Attitude Scales were found to be reliable survey instruments at the pre- and post-treatment stages. All returned Cronbach’s Alpha coefficients for internal consistency of 0.91
to 0.83. These compared favourably with Keeves’ K-R20 coefficients of 0.84 to 0.82. All three measures for coefficients of internal consistency exceed Helmstadter’s median reliability value of 0.79 for attitude scales (Borg, 1987: 122).

Validity.

Validity of responses was inferred from subjects and pastoral care teachers’ reported observations of subjects’ affective learning behaviours in a range of school learning environments. This technique followed Keeves’ validation practices where teacher assessment was used as an indicator of the truth of subjects’ self-reported responses (Keeves, 1974). Its rigorous application eliminated from the survey those subjects whose self-reported attitudes were qualitatively different to those reported by their teachers.

Results for Effects of Structured Workplace learning on Students in Compulsory Education.

The percentages of students reporting improved attitudes are detailed in Table 1 below.

Table 1: Percentages and numbers of Non-Participants (NP) and Participants (P) reporting improved attitudes from pretest to posttest by Affective Domain Taxonomy Level.

<table>
<thead>
<tr>
<th>AFFECTIVE DOMAIN TAXONOMY LEVEL</th>
<th>NP</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVEL 1 (RECEIVING AND ATTENDING)</td>
<td>21% (7)</td>
<td>22% (4)</td>
</tr>
<tr>
<td>LEVEL 2 (RESPONDING)</td>
<td>24% (7)</td>
<td>19% (4)</td>
</tr>
<tr>
<td>LEVEL 3 (VALUING)</td>
<td>31% (9)</td>
<td>44% (7)</td>
</tr>
</tbody>
</table>

Table 1 shows a progressive improvement by the Non-participant group at successively higher levels of the taxonomy. The Participant group shows a more inconsistent trend, with an improvement comparable with the Non-participant group at Level 1, regression at Level 2, and a markedly high rate of improvement at Level 3. This information is depicted graphically in Figure 1 below.

Figure 1: Percentages of Students Reporting Improved Attitudes to Learning by Affective Domain Taxonomy Levels
The graph in Figure 1 reveals a consistent trend towards increasing rates of improvement for Non-participants in successively higher levels of the Taxonomy. Participants’ rates of improvement show a different trend line, more akin to a J-curve than a straight line. The shape of the J-curve is implied in the Participant group’s regression from receiving to responding. There is, however, a marked increase in the proportion of the Participant group reporting improved attitudes from responding to valuing. This increase outstrips the rate of improvement of the Non-participant group.
Statistical Analysis.

The purpose of this procedure was to test the strength of inferences about improvements in students’ attitudes to learning after exposure to structured workplace learning. These data were tested at the 0.05 rejection level (one tailed) for the stated null hypotheses below. The one tailed test was applied because the direction of change was predicted, that is, an attitudinal change in the positive direction.

The Wilcoxon Signed Ranks Test for matched pairs was used for this statistical analysis. This choice was in accordance with its suitability for ordinal data (Siegel and Castellan, 1988) and its suitability for analysing data from this research design (Cook and Campbell, 1979). Pair matching was achieved by matching experimental subjects with subjects from the pool of potential controls using subjects' attitude profiles yielded by the pre-treatment survey (Keeves, 1997). The computer software Statistical Package for the Social Sciences was used to match the subjects’ profiles and calculate the data analyses (SPSS, 1999). Null hypotheses and output from SPSS are shown in the following tables.

Table 2: Wilcoxon Signed Ranks Test for matched pairs in the Affective Domain Taxonomy Level 1 (Receiving and Attending).

Null hypothesis. $H_0$: there is no difference between the median ranks of the Participant group and the median ranks of the Non-participant group in relation to their responses on the pretest and posttest survey instruments in the Affective Domain Taxonomy level of Level 1 (Receiving and Attending).

<table>
<thead>
<tr>
<th>Ranks</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF 2 - DIFF 1 Negative Ranks</td>
<td>2$^a$</td>
<td>3.50</td>
<td>7.00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>3$^b$</td>
<td>2.67</td>
<td>8.00</td>
</tr>
<tr>
<td>Ties</td>
<td>8$^c$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- a. DIFF 2 $<$ DIFF 1
- b. DIFF 2 $>$ DIFF 1
- c. DIFF 1 $=$ DIFF 2

Table 3: Wilcoxon Signed Ranks Test for matched pairs in the Affective Domain Taxonomy Level 2 (Responding).

Null hypothesis. $H_0$: there is no difference between the median ranks of the Participant group and the median ranks of the Non-participant group in relation to their responses on the pretest and posttest survey instruments in the Affective Domain Taxonomy level of Level 2 (Responding).
Table 4: Wilcoxon Signed Ranks Test for matched pairs in the Affective Domain Taxonomy Level 3 (Valuing)

Null hypothesis. \( H_0 \): there is no difference between the median ranks of the Participant group and the median ranks of the Non-participant group in relation to their responses on the pretest and posttest survey instruments in the Affective Domain Taxonomy level of Level 3 (Valuing).

<table>
<thead>
<tr>
<th>DIFF2 - DIFF1</th>
<th>Negative Ranks</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF2 - DIFF1</td>
<td>Positive Ranks</td>
<td>3</td>
<td>6.38</td>
<td>51.00</td>
</tr>
<tr>
<td>DIFF2 - DIFF1</td>
<td>Ties</td>
<td>3</td>
<td>5.00</td>
<td>15.00</td>
</tr>
<tr>
<td>DIFF2 - DIFF1</td>
<td>Total</td>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interpretation.

Because the direction of change is predicted all the tests are one-tailed. The sums of ranks for Tables 2, 3 and 4 reflect the values shown in Figure 1 and Table 1. Table 2 shows a slight positive effect for the Participant group in Taxonomy level 1 (Receiving and Attending), Table 3 a negative effect for the Participant group in Taxonomy level 2 (Responding), and Table 4 a more marked positive effect for the Participant group in Taxonomy level 3 (Valuing). Statistically, none of these sums of ranks \((T')\) values warranted rejection of the null hypothesis at the one-tailed 0.05 level of probability. The \(T'\) value of 8 for Table 2 (Receiving and Attending) yields a \(p\) value of 0.50; the \(T'\) value of 15 for Table
3 (Responding) yields a $p$ value of greater than 0.50; and the $T^*$ value of 16.5 for Table 4 (Valuing) yields a $p$ value of 0.40 (Siegel and Castellan, 1988:332-333). The latter $p$ value shows a weak positive effect.

Research Design Supporting Research into the Effects of Structured Workplace Learning on Personnel in Host Workplaces

A ten-item purpose-designed questionnaire was prepared and used as a survey instrument that was administered to all host employee volunteers who had been involved in students' structured workplace learning during 1999 and/or 2000. Each respondent was asked to reply in terms of each of the four workplace context layers explained above (O’Connell, 1994). Three questionnaire items elicited responses related to workplace context layer 1 (individual workers), three questionnaire items elicited responses related to workplace context layer 2 (work teams or groups), two questionnaire items elicited responses related to workplace context layer 3 (work section or department), and the remaining two questionnaire items elicited responses related to workplace context layer 4 (enterprise). Thus, host employees were asked for their perceptions of the training’s effect on the four workplace context layers irrespective of their occupation of positions within that structure.

Survey Instrument

Respondents’ recorded their responses in a questionnaire format by ranking each item on a four-point Likert scale in the range: Strongly Agree; Agree; Disagree; and Strongly Disagree. Each ranking was scored as 2; 1; -1; and –2 respectively. Positive and negative statements were posed, with positive answers to positive items being scored as positive; negative answers to negative items being scored as positive; positive answers to negative items being scored as negative; and negative answers to positive items being scored as negative. Provision was made for respondents’ voluntary comment at the end of the questionnaire.

Reliability

Thirty-eight employees identified as being involved in the program in the host employer’s five supermarkets were approached to complete questionnaires. Thirty-three volunteered and completed the questionnaires in the presence of the researcher. The responses from these volunteers were analysed for internal consistency. The reliability of the survey instrument expressed as Cronbach’s Alpha was 0.75. This is greater than the generally accepted level of 0.70 and indicates that the survey instrument is reliable (Litwin, 1995:31).

Validity

Content validity was used to establish the survey instrument’s truth in measuring respondents’ views. Content validity involves the consultation of experts external to the questionnaire’s formulation and administration, ‘…a set of reviewers who have some knowledge of the subject matter’ (Litwin, 1995:35). Accordingly, a panel of five of the host employer’s experienced and qualified trainers was formed to validate the questionnaire items. These personnel were conversant with the workplace culture of the host employer’ supermarkets, having had periods of trainer and training experience in individual and clustered supermarkets ranging from one to five years. The panel members’ status as experienced and qualified trainers was confirmed in writing by the host employer’s staff training and development manager.
Results for Effect on Host Employer’s Workplaces

There was a strong tendency to favourable responses from host employees about the effects of the structured workplace learning programs in their workplaces. Dissent about the worth of the program was limited to three respondents’ disagreement with Questionnaire Item 8 (Workplace Layer 1: "Most of the students in our department learned quickly") and two respondents’ disagreement with Item 9 (Workplace layer 3: "I think that I became more responsible through helping these students"). There were no instances of strong disagreement on any questionnaire item. In the remaining questionnaire items, respondents indicated agreement or strong agreement that supported the positive effect of the program on their workplaces. Thus, host employees were overwhelmingly positive about their roles in hosting students for structured workplace learning. These sentiments are depicted graphically in Figure 2 below.

*Figure 2: Median rankings by 33 employees from five host workplaces according to workplace context layers (O’Connell, 1994).*

Figure 2 shows agreement by respondents in each of the first two of O’Connell’s workplace context layers (individual workers and work teams or groups) and stronger agreement about the program’s positive effect at the level of the work section or department and the enterprise workplace layer.

Some respondents’ voluntary comments exemplify these trends:
Individual Workplace Context Layer (Layer 1)

It gives you a responsibility to teach someone what you have to learn in retail (Male respondent, 27/9/2000, No. 4).

Work Teams or Groups Workplace Context Layer (Layer 2)

All the students that I worked with showed a lot of enthusiasm and they were keen to learn and enjoyed hands on experience. I found them most pleasant to work with (Male respondent, 28/9/2000, No. 3).

Work Section or Department Workplace Context Layer (Layer 3)

When they had a chance to return to the produce department, they had remembered most things that I had taught them the first time (Male respondent, 28/9/2000, No. 2)

Enterprise Workplace Context Layer (Layer 4)

We have now hired 7 students from [name of school deleted] high. This program has/is working really well for us (Female respondent, 27/9/2000, No. 7).

Interpretation

Descriptive analysis indicates that there is a markedly positive response to school students’ structured workplace learning in these workplaces. In the instances cited above, the presence of these students enhanced the effectiveness of the workplace learning culture by promoting personal responsibility, encouraging workplace instruction and contributed to the value of the enterprise through the identification of prospective employees.

Discussion

Despite none of the statistical analyses allowing rejection of the null hypotheses, there is evidence of a trend towards students becoming more actively involved in and positive about their learning in the school context after experiencing structured workplace learning. Additionally, the effect of structured workplace learning on host workplaces was favourable as evidenced by the overwhelmingly positive sentiments expressed in each of the workplace context layers investigated.

Further Research

There is little research evidence of similar studies into the effects of structured workplace learning on students’ attitudes to learning in school contexts. Stone and Wonser (1990) found that ‘...few studies have explored the contribution of experientially based work programs to the social development, educational advancement, or psychological maturity of participants’ (1990: 43); so few that they considered that significant questions remained unanswered. Accordingly, Stone and Wonser recommended that, amongst other things, research might address the following question:

Is there an experiential, work-based model of vocational-technical education more responsive to individual student needs (e.g., student characteristics
such as learning style) than more traditional educational methods? (1990: 44).

In the decade since little such research has emerged. This case study represents one such study but its smallness and the concomitant limitations on its quantitative findings indicates that a larger scale study based on its methodology may yield information that is unequivocally supported by quantitative analysis.

This research may also provide some indicators of practical action employers might take in establishing and maintaining themselves as learning organisations. In pursuit of that goal much research has been undertaken in the field of workplaces as learning environments. It is noted, however, that ‘...practical advice on the measures needed to promote learning [in workplaces] is often lacking’ (Sefton et al 1995:45). In seeking such advice Sefton et al cite Garvin’s (1994) work that suggests that the presence in the workplace of processes such as ‘...learning from experience...learning from others...transferring knowledge...

[and]...measuring learning...' are indicators of a learning organization (1995:45). Structured workplace learning offers scope to embrace each of these processes. Thus, hosting school students for structured workplace learning may well provide a stimulus to increase employees’ awareness and application of these learning processes through their involvement in training others.

Conclusion.

This case study shows that linking schools in the compulsory education sector with host workplaces through structured workplace learning tends towards positive gains for all concerned. For students, it reveals a tendency for gains in their development of higher-level affective behaviours associated with valuing learning and commitment to learning in the school context. For host employers it indicates that the effects of such programs are overwhelmingly positive in their promotion of a workplace learning culture. This study points to the desirability of linking schools and workplaces through structured workplace learning partnerships, particularly if improved student attitudes to school learning and improved personnel responses to developing learning cultures in workplaces are seen as worthwhile outcomes by school authorities and host employers.
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